



The Commonwealth of Massachusetts
Executive Office for Administration and Finance
Division of Capital Asset Management
One Ashburton Place
Boston, Massachusetts 02108

September 6, 2005

TO: Cabinet Secretaries, Division Directors, and Agency Heads
FROM: David B. Perini, Commissioner
RE: Maintenance Standards and Guidelines

I am pleased to share with you newly developed maintenance standards for state facilities. These standards were created in collaboration with representatives from various state agencies working with DCAM's new Office of Facilities Maintenance (OFM). OFM is charged with implementing programs and procedures to improve state facilities maintenance to maximize the useful life of these capital assets. As many of you know, having well-maintained buildings yields a more efficient use of capital and operating resources as costly emergency and unplanned repair projects are reduced. Having maintenance standards against which facility and agency personnel can measure themselves is an important step in determining what steps need to be taken to improve facilities maintenance.

Attached to this document you will find the rationale and background for this initiative including a discussion of the purpose, benefits, components, process and implementation of the standards. Also attached are the tools (charts and guidance) with which to measure and record the maintenance being performed at a state building. All will be useful as we begin the process with creation of a baseline.

Baseline Creation: To begin a program of monitoring and improving the Commonwealth's maintenance posture, we first need to create a baseline by taking an initial audit of state buildings. With that in mind, agencies are requested to:

- Perform a self-audit of building maintenance on the buildings under their control during the month of October.
- Use the Status Chart to record audit results. (The chart is also available on DCAM's website at the following url: http://www.mass.gov/cam/about/ov_ofm.html)
- Submit (by mail, fax, electronically) results on the audit to DCAM no later than Nov 14, 2005.
- Report only on buildings that are occupied daily by state employees and have an area of over 5000 gsf.
- Use my staff to resolve any questions or problems. Call Mark Nelson, Deputy Commissioner for DCAM's Office of Facilities Maintenance at 617-727-4030 ext 237.

Thank you for your cooperation in this process.

CC: Secretary, A&F.

Enclosure 1- Background for Commonwealth Maintenance Standards
Enclosure 2 – Maintenance Standard Status Chart
Enclosure 3 – Guidance for Indicator Levels

Background for Commonwealth Maintenance Standards

What is the Standard? A committee from the Massachusetts Facility Managers Association (MAFMA) with representatives from Higher Education, Department of Youth Services, State Police, National Guard, and the Department of Public Health developed the standards in the first half of 2005. **The group agreed that the goal for all state facilities would be to achieve at least Level 2 (Comprehensive) in all indicators.** In effect, Level 2 is the standard. (See Status Chart.)

Why Standards? The goal of the public agencies of the Commonwealth is to provide excellent service to its citizens. For those agencies entrusted with the care and control of state buildings this means that their buildings must reflect well on the Commonwealth and the agency providing service. Only a well-maintained building will have this effect.

How does a facility manager, charged with maintaining a state building, know whether their building is well maintained? What do they have to compare their building to? Against what standard do they measure? The facility managers need to have standards, goals toward which they strive to achieve. **These standards will help facility managers determine where they stack up in regards to the ideal, and map a plan to get there.**

Finally, Massachusetts General Law, Chapter 7, Section 43C requires DCAM to set forth standards and guidelines applicable to maintenance and repair. These standards are to be complied with by state agencies and **building authorities**.

Who will Benefit? Everyone benefits from safe, healthy, well-maintained buildings. In Massachusetts there are over 5,500 state buildings in active use. In one way or another, these buildings are occupied, used, or visited by the state's citizens. Some are coming in search of a service, while others are state employees using the building as a base from which to provide service. **Well-maintained state buildings build trust and pride in the citizenry.** They see that their taxes are being well spent. The morale and attitude of the building occupants are enhanced.

A well-maintained building is cost effective. Such a building will not need renovation or new equipment installed as often as a poorly maintained building. Those facility managers who maintain their buildings well are good stewards of state funding and resources.

What's in the Standard? The standard consists of 18 indicators that indicate some level of maintenance, arrayed across five levels – Exceptional, Comprehensive, Adequate, Reactive, and Crisis. The indicators are both subjective (e.g., Interior Appearance) and objective (e.g., Percentage of Preventive Maintenance vs. Repair). The indicators are weighted between 1.0-2.0 as to their perceived importance in the maintenance of a building.

Each indicator is explained in the Guidance for Indicator Levels for each level of maintenance.

Who Should Be Involved in the Process? Any person with a basic knowledge of facilities can determine where a building rates against the standard (again, Level 2). This might be called an **audit** or status evaluation. Once the level of the facility is established, the facility manager can focus effort to achieving Level 2 in all areas that fall short. Agency executives with funding authority can assist in the process by working with the facility manager to **resource** the manager appropriately to meet the standard. DCAM will **support** the facility managers with advice, technology, training, and repair projects, as needed to achieve Level 2.

This is truly a team effort that will only succeed when all involved stay focused on the goal.

How to use the Standard: The Status Chart is the main diagnostic tool, with the Guidance for Indicator Levels being useful as reference material. Armed with these, **facility managers should perform self-audits on their buildings annually**. In accordance with the law cited above, they should report their status annually to DCAM. The report should show where the building rates against each indicator, and include any explanatory notes that would help explain anomalies. Of course, audits by outside parties, like DCAM, may also be performed.

All of the data needed to perform a maintenance standard audit should be available at the facility itself. **Some may be easily found in the data files of CAMIS, which is available to all agencies and facility managers in the state.** Taking and compiling the results of such an audit should take less than a day if a manager is well organized.



MAINTENANCE STANDARD STATUS CHART
(Indicate your Level for each indicator)

#	Weight	INDICATOR	LEVELS				
			5 CRISIS	4 REACTIVE	3 ADEQUATE	2 COMPREHENSIVE	1 EXCEPTIONAL
1	1.5	Routine Service Response	1 YR	3 months	1 month	2 weeks	Immediate
2	1.5	Comfort level service response	1 month	2 weeks	1 week	1-3 days	Immediate
3	1.5	Customer Perception	Critical	Basic	Tolerable	Complimentary	Pride
4	1.5	Emergency Maintenance Work Orders	>20%	15-20%	10-15%	5-10%	0 - 5%
5	1.5	PM vs Repair Maintenance	0 - 10 %	10 - 30 %	30 - 50 %	50 - 70 %	70 -100 %
6	1.0	Work Order Backlog	Much Above Average	>Average	Average	Below Average	NIL
7	1.5	Breakdown Maintenance	Most need repair	Many need repair	Occasional breakdowns	Component Failure	Rarely
8	1.0	Availability	<50%	50-70%	70-85%	85-99%	100%
9	1.0	Illumination (interior)	Dark	Many out	Generally well lit	Mostly lit	Completely Lit
10	1.0	Illumination (exterior)	Dark	Many out	Generally well lit	Mostly lit	Completely lit

**MAINTENANCE STANDARD STATUS CHART - continued**

Division of Capital Asset Management

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Building for the Commonwealth

11	1.3	Interior Appearance	Dismal finishes	Dingy finish	Average finishes	Better than average finishes	Like new finishes
12	2.0	Maintenance Staffing	Way too few	Too few	Way too many	Too many	Just right
13	1.5	Envelope Condition	Very poor	Drafty & leaky; unattractive	Minor leaks; average finish	Watertight; good finishes	Like new
14	1.7	HVAC Systems	Completely unreliable	Unreliable	Generally OK	Reliable	Always work
15	1.5	As-builts and manuals	Few to none on hand	Some on hand	Most on hand	All on hand	All, plus others
16	2.0	Code Compliant	Many areas out	Some areas out	Almost all, with no plans to achieve	Almost all, with plans to achieve	Completely
17	1.0	Sustainability	No plans	Few plans	Some plans	Most plans	Plans fully in place and implemented
18	2.0	Maintenance Management Systems	No systems or plans in place.	Systems in place, but not used.	PM, Work Order used sometimes.	PM, Work Order, in use	PM, Work Order, plus some, fully used

Explanatory Notes:

Bldg Name or address or CAMIS #: _____

Date Audited: _____

Auditor: _____



COMMONWEALTH OF MASSACHUSETTS
STANDARDS FOR BUILDING MAINTENANCE
GUIDANCE FOR INDICATOR LEVELS

Level 1 EXCEPTIONAL MAINTENANCE	<p>Level 1 represents “showpiece quality” maintenance. There are no complaints about the building’s maintenance condition. The physical environment is “inspirational.”</p> <ol style="list-style-type: none">1/2. Service response: Immediate for all requests (emergency, urgent, routine).1. Building occupants have a high level of trust in maintenance service, and take great pride in the appearance and condition of the facility.4. Emergency notifications as a % of all notifications: 0 – 5%5. Preventive maintenance vs. repair maintenance: 70 – 100%6. No work order backlog.7. Breakdown maintenance is rare and limited to vandalism and abuse repairs.8. Building and site areas are fully functional and always available for use.9/10. Illumination is bright, clean, attractive, and fully functional.11. Interior finishes and fixtures are like new.12. Maintenance staff is trained and fully utilized.13. Windows, doors, trim, exterior walls, roof, and finishes are like new.14. HVAC systems are “state of the art,” always fully functional and properly calibrated, and provide total occupant comfort in all parts of the building in accordance with existing temperature guidelines.15. Tech manuals, as-builts, O&M plans plus other helpful documents are present for use by the FM team.16. All building codes are met.17. Sustainability plans are in place and being implemented18. FM systems (PM, work order reception, work plans, others) fully used. <ul style="list-style-type: none">• Customer perception of service and facility condition: <u>Pride</u>.
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COMMONWEALTH OF MASSACHUSETTS
STANDARDS FOR BUILDING MAINTENANCE
GUIDANCE FOR INDICATOR LEVELS

Level 2
COMPREHENSIVE
MAINTENANCE

Level 2 is the base maintenance level at which buildings should be kept. Building occupants are satisfied with the maintenance service and are generally proud of the appearance and condition of the facility. There are very few complaints about the overall building maintenance condition. The physical environment is “**motivational**.”

- 1/ 2. Service response: At standard for emergency and urgent requests, within 2 weeks for routine requests. Comfort calls addressed in 1-3 days.
3. Building occupants are satisfied with the maintenance service and are generally proud of the appearance and condition of the facility. There are very few complaints about the overall building maintenance condition.
4. Emergency notifications as a % of all notifications: 5 – 10%
5. Preventive maintenance vs. repair maintenance: 50 – 70%
6. Work order backlog is below the average for similar facilities.
7. Breakdown or emergency maintenance usually due to unpredictable failure of equipment components.
8. Building and site areas are usually functional and available for use.
- 9/10. Illumination is bright, clean, attractive with the occasional light out.
11. Interior finishes and fixtures are in better than average condition for similar facilities.
12. Maintenance staff is trained, but some are idle.
13. Windows, doors, exterior walls, roof are watertight and finishes appear good.
14. HVAC systems operate reliably, are properly calibrated and provide occupant comfort in most parts of the building in accordance with existing temperature guidelines.
15. Tech manuals, as-builts and plans are on hand.
16. Most codes are met, but some are in process of approval.
17. Most sustainability plans and projects are in place and in use.
18. A PM and work order management system are in use. Work plans exist.

- Customer perception of service and facility condition: Complimentary.



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Level 3
ADEQUATE
MAINTENANCE

Level 3 is a sufficient maintenance level, reflecting lower expectations of building maintenance. While not totally acceptable, building maintenance condition has yet to reach an unacceptable level. The physical environment is “ordinary.”

- 1/2. Service response: At standard for emergency and urgent requests, within 1 month for routine requests. Comfort calls take a week.
 3. Building occupants expect or tolerate interruptions due to breakdowns. Pride in the appearance and condition of the facility begins to decrease. Complaints about the overall building maintenance condition increase.
 4. Emergency notifications as a % of all notifications: 10 – 15%
 5. Preventive maintenance vs. repair maintenance: 30 – 50%
 6. Work order backlog is at the average for similar facilities.
 7. Building and site areas are mostly functional, but experience occasional breakdowns that may affect availability for use.
 8. Building is 70-85% usable.
 - 9/10. Building illumination is generally good, with a small percentage of lights out.
 11. Interior finishes and fixtures are in average condition for similar facilities.
 12. Some staff is untrained, and many are idle.
 13. Exterior component condition and appearance is average with minor leaks and blemishes. Finishes unexceptional.
 14. HVAC systems are generally reliable with most components properly calibrated, providing acceptable occupant comfort in primary areas of the building in accordance with existing temperature guidelines.
 15. Most manuals needed to run the building are on hand.
 16. Most codes are being met, but no effort being made to achieve shortfalls.
 17. Some sustainability plans have been made to address the agency goals.
 18. PM, work order system, and plans in place but not always used.
- Customer perception of service and facility condition: Tolerable.



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Level 4

**REACTIVE
MAINTENANCE**

Level 4 represents a substandard degree of maintenance service. The physical environment is “**uninspiring.**”

- 1/2. Service response: At standard for emergency and urgent requests, within 3 months for routine requests. Comfort calls take two weeks.
 3. Building occupants become more critical of the responsiveness and quality of maintenance service, and lack pride in the appearance and condition of the facility. Complaints about the overall building maintenance condition increase greatly.
 4. Emergency notifications as a % of all notifications: 15 – 20%
 5. Preventive maintenance vs. repair maintenance: 10 – 30%
 6. Work order backlog is above the average for similar facilities.
 7. Many building components are in need of renewal or repair
 8. Building and site areas are often nonfunctional and not suitable for use.
 - 9/10. Below average illumination with numerous lights out, some missing diffusers; secondary areas are dim due to missing lights.
 11. Interior finishes and fixtures are below the average condition for similar facilities. Dingy.
 12. Insufficient staff to maintain the facility; some are untrained.
 13. Exterior components appear rough, worn and unattractive and are drafty and leaky. Finishes are in need of renewal.
 14. HVAC systems are unreliable and/or inadequately calibrated, resulting in a negative impact on occupant comfort and frequent operation outside of existing temperature guidelines.
 15. Some manuals and plans for the building are available.
 16. Out of compliance in several code areas.
 17. There are few plans, if any, to deal with agency sustainability goals.
 18. There are PM and work order systems available, but they are not used.
- Customer perception of service and facility condition: Basic.



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GUIDANCE FOR INDICATOR LEVELS

Level 5 CRISIS MAINTENANCE	<p>Level 5 represents the lowest level of maintenance condition and service. The physical environment is “dispiriting.”</p> <ol style="list-style-type: none">1/2. Service response: At standard for emergency and urgent requests, one year or more for routine requests. Comfort calls take a month or more.3. Building occupants are very critical of the responsiveness and quality of maintenance service, and lack any pride in the appearance and condition of the facility. Complaints about the overall building maintenance condition are constant.4. Emergency notifications as a % of all notifications: > 20%5. Preventive maintenance vs. repair maintenance: < 10%6. Work order backlog is significantly above the average for similar facilities.7. Most building components are in need of renewal or repair8. Building and site areas are routinely non-functional and cannot be used.9/10. Illumination in primary areas is dim and shadowy due to many missing or damaged bulbs and diffusers; secondary areas are in darkness due to missing lights.11. Interior finishes and fixtures are in poor condition.12. Severe understaffing; untrained staff.13. Exterior condition and appearance is very poor with significant water and air penetration. Paint is peeling.14. HVAC systems are completely unreliable and/or not properly calibrated, resulting in significant occupant discomfort and consistent operation outside of existing temperature guidelines.15. Few to no building plans available.16. Many building systems are out of code.17. There are no plans to address agency sustainability goals.18. No PM or work order system in place. No work plans. <ul style="list-style-type: none">• Customer perception of service and facility condition: <u>Critical</u>.
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